

ARION FUSCUS, Müller; *A. incommodus*, Hutton.

Dark grey with a lateral stripe on the mantle and a longitudinal band on each side black; sole of foot yellow. Dentition, 32-1-32.

Hab. Dunedin.

ZONITES CELLARIUS, Müller; *Hyalina corneo-fulva*, Pfeiffer.

Shell sub-discoidal, pellucid, smooth, polished; light greenish horn; whorls 5; umbilicus moderate. Greatest diameter .5 inch. Dentition, 14-1-14.

Hab. Bay of Islands; Auckland; Napier.

H. corneo-fulva is described as "sub-orbicular," but the dimensions given do not agree.

LIMAX MAXIMUS, Linné.

Light brown, usually with spots and stripes of black on the back and sides. Length sometimes 4 inches. Dentition, 76-1-76.

Hab. Dunedin.

LIMAX FLAVUS, Linné.

Yellowish or ashy brown with pale spots; head and eye-peduncles bluish, tentacles white; the tail keeled. Length sometimes 3 inches. Dentition, 60-1-60.

Hab. Dunedin; Greymouth.

LIMAX AGRESTIS, Linné, *L. molestus*, Hutton.

Whitish, greyish, black, or yellowish, sometimes spotted; eye-peduncles and tentacles darker; tail shortly keeled. Length about 1 inch. Dentition, 45-1-45.

Hab. Auckland, Wellington, Nelson, Greymouth, Christchurch, Dunedin, etc.

ART. IX.—Notes on some Marine Mollusca, with Descriptions of new Species.

By Professor F. W. HUTTON.

[Read before the Philosophical Institute of Canterbury, 7th June, 1883.]

Plate XI., figs. 1-5.

OPHICARDELUS COSTELLARIS, Adams (*Tralia*). Pl. xi., fig. 1.

Dentition, $\frac{55-1-55}{100}$. Laterals, 31. Central tooth oval with a deep posterior indentation, or thinning; the reflexed portion very small. Laterals rather oblique, unicuspid, with a broad cutting point; in the outer laterals the cusp, or reflexed portion, becomes emarginate or notched at the end. Marginals rather longer than broad, divided into two portions, the inner of which is the larger, each with a small cutting point.

Hab. Auckland, Napier, and Wellington.

In adult specimens the shell is irregularly longitudinally ribbed, but in the young these ribs are absent, and it has then either been mistaken for *O. australis*, Q. and G., or has been considered distinct, and has been named *Laimodonta quoyi* by Adams (= *Auricula quoyi*, Sowerby, in Reeve's *Conch. Icon.*, fig. 39). The animal has not yet been described.

Melampus commodus, Adams; *M. zealandicus*, Adams; *M. sulcatus*, Adams; and *M. adamsianus*, Pfeiffer, are not, I believe, found in New Zealand; the two latter come from Australia and New Caledonia. I do not know what *Melampus novæ-zealandiæ*, Reeve, is of the list of New Zealand shells obtained by the Novara Expedition.

LEUCONOPSIS OBSOLETA, Hutton (*Leuconia*).

Dentition, $\frac{55-1-55}{150}$. The teeth are so minute that I have been unable to make them out distinctly with a sixteenth objective.

This species is found under stones between tide-marks at Auckland. It is distinguished from all the European species by having only one plait on the inner lip; consequently it should, I think, be formed into a separate genus for which I propose the name *Leuconopsis*.

ÆOLIS LEPTOSOMA, n. s. Pl. xi., fig. 2.

Animal small, elongated, the tail rather short, pointed; minute eyes behind the tentacles. Tentacles four, subulate, the oral pair distant at their bases. Gills as long as the breadth of the animal, crowded, in about twelve transverse rows on each side of the back. Foot rather expanded, the margin thin, not crisped nor produced in front. Colour yellowish-white with some thin lines of reddish-yellow on the head and back; gills brownish-grey, tipped and slightly margined with white. Length .4 inch.

Dentition, $\frac{0-1-0}{36}$. Each tooth strongly arched, with six or seven cutting points, the central being rather larger than the others.

Hab. Lyttelton Harbour, on Sertularians.

EUTHRIA STRIATA, Hutton. Pl. xi., fig. 3.

Dentition. Central tooth strongly curved, the ends bent backward; a single tricuspid cutting point in the centre. Laterals with three subequal and equidistant blunt points.

Hab. Lyttelton Harbour.

EUTHRIA FLAVESCENS, Hutton. Pl. xi., fig. 4.

E. lineata, var. D. *Man. N.Z. Mollusca*, p. 51.

Dentition. Central tooth deep, slightly hollowed behind, the ends broad and not bent backward; a single tricuspid cutting point in the centre. Laterals with three points, of which the outer is the largest, and divided by a considerable space from the middle point, which is the smallest.

Hab. Ocean Beach, Dunedin.

The dentition of this animal differs so much from that of *E. lineata*, and that of *E. littorinoides*, that I am obliged to make it into a distinct species.

CERITHIDEA TRICARINATA, n. s.

Shell turreted, strongly longitudinally plicate, and distinctly spirally grooved: colour brown, the interior with lighter spiral bands. Whorls 9, or 10, flattened, with eight strong, rounded, sub-nodulose, longitudinal ribs, which on the body-whorl cover only the posterior half, and below them are three, sub-equidistant, well-marked spiral ridges, with occasionally others on the pillar: spire whorls and posterior half of the body-whorl with three or four spiral grooves. Aperture broadly ovate, with a well-marked posterior canal; anterior canal very short, the aperture deeply notched at the base. Length .56; breadth .2 inch.

Hab. Katikati, near Tauranga.

Distinguished from *C. bicarinata* by its bolder sculpture, fewer plications, and the three ridges at the base of the body-whorl.

BITTIUM EXILIS, Hutton.

Shell turreted, with faint longitudinal plicæ, and distinct spiral ribs: colour dark reddish-brown. Whorls 8, flattened, the suture impressed: spire-whorls with two to four spiral nodular ridges, but on the apical whorls the nodules are absent: body-whorl with two to four nodular ridges, in front of which are about six smooth spiral ridges, making about nine in all; between the ridges there is usually a raised spiral line: columella nearly straight: aperture oval, without any notch at the anterior end; canal very short, or obsolete. Length .2; breadth .07 inch.

Hab. Auckland Harbour.

I give an amended description of this species from specimens sent by Mr. Cheeseman.

CINGULA LIMBATA, n. s.

Shell elongately conical, smooth, polished but not iridescent. Whorls 5 or 6, flattened: aperture ovate, peristome continuous, not iridescent within. Colour ashy brown, usually with a posterior row of white spots at the suture; last whorl often with angulated brown and white markings. Operculum unknown. Length .11; breadth .06 inch.

Hab. Auckland (T. F. Cheeseman).

CRYPTA UNGUIFORMIS, Lamarck.

Dentition. Central tooth as broad as long, the reflexed portion triangular, concave and slightly dentate on each side, the cutting point minute. First lateral broad, with about nine minute teeth. Second and third laterals similar, curved and slightly denticulate on the outer margin.

Hab. Dunedin.

CYCLOSTREMA FLUCTUATA, n. s.

Shell small, rather solid, spirally striated, not iridescent: colour yellowish white or pale brownish with irregular waved longitudinal bands of brown, which are rather indistinct. Spire depressed, obtuse; whorls 4, rounded, distinctly and closely spirally grooved, the umbilical region smooth; suture scarcely impressed: umbilicus narrow, deep. Aperture sub-rotund; peristome acute, not continuous, the lower lip thickened. Operculum rather thick, sub-calcareous, translucent, white, round, of about six slowly increasing whorls. Diameter .11 inch.

Hab. Foveaux Straits.

ACMÆA CINGULATA, n. s. Plate xi., fig. 5.

Shell moderately thick white oval, conical; apex about one-third of the length from the anterior end: about 30 to 50 low radiating ribs. Interior white, the margin light brownish pink banded with white. Length .56; breadth .45; height .2 inch.

Dentition. Teeth very short and broad, the recurved portions three, arranged in an oblique line so that the anterior on each side are in juxtaposition, while the posterior are widely separated; all are short and blunt. Basal plates imbricating; the posterior margin nearly straight, the exterior margin slightly, and the anterior margin deeply sinuated: no accessory teeth.

Hab. Lyttelton and Dunedin.

The shell in this species much resembles that of *A. lacunosa*, Reeve (= *corticata*, mihi), but the ribs are finer and the margin differently coloured; the teeth however are very different. It may prove to be a variety of *A. rubiginosa*, the dentition of which is not yet known.

KELLIA CITRINA, n. s.

Shell minute, ovato-rotund, smooth, finely concentrically grooved, sub-equilateral; pale yellowish. Right valve without any cardinal teeth, the anterior lateral swollen and hollowed in the middle; posterior lateral small. Left valve with a small anterior cardinal tooth; the laterals on each side thin. Length .08; height .07 inch.

Hab. Tamaki Heads, near Auckland (T. F. Cheeseman).

KELLIA SANGUINEA, n. s.

Shell minute, ovato-rotund, smooth, finely concentrically grooved, sub-equilateral; yellowish-white, the umbones bright pink. Right valve with an anterior broad triangular cardinal tooth, with a projection on its anterior face; anterior lateral small; posterior laterals two. Left valve with two small cardinal teeth disjoined at the base; anterior lateral single, getting thicker below; posterior lateral single, bifid at the end. Length .08; height .07 inch.

Hab. Foveaux Strait.

UNIO DEPAUPERATUS, n. s.

Shell very thin, oblong, compressed; anterior end very short, rounded; the posterior slightly winged, and very obliquely truncated; dorsal margin gently ascending, slightly arched; ventral margin straight and sinuated in the middle; cardinal teeth minute, compressed, smooth, only one in the left valve; lateral teeth low and thin. Length 2·4; height 1·2; thickness ·55 inch.

Hab. Lake Takapuna, Auckland.

Perhaps an impoverished form of *U. zelebori*, but too distinct to be passed over. The type is in the Colonial Museum, Wellington.

UNIO RUGATUS, n. s.

Shell oval, rather thin, anterior end compressed, rounded, finely striated; posterior subventricose very rudely concentrically corrugated; dorsal margin ascending, straight; ventral margin flatly rounded; cardinal teeth rugose, not striated. Length 2·05; height 1·35; thickness ·65 inch.

Hab. Lake Pearson; Upper Waimakariri (J. D. Enys).

EXPLANATION OF PLATE XI., FIGS. 1-5.

- Fig. 1. *Omphicardelus costellaris*. Teeth \times 470.
 2. *Æolis leptosoma*. Teeth \times 160.
 3. *Euthria striata*. Teeth \times 280.
 4. „ *flavescens*. Teeth \times 280.
 5. *Acmæa cingulata*. Teeth \times 160.
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ART X.—*Revision of the recent Rhachiglossate Mollusca of New Zealand.*

By Captain F. W. Hutton.

[Read before the Philosophical Institute of Canterbury, 6th September, 1883.]

IN the Catalogue of the Marine Mollusca,* and in the Manual of the Mollusca, † published by the Colonial Museum and Geological Survey Department, no attempt is made to trace out the synonymy of the species, and but very little to expunge those names which have no right to appear in our fauna. These things were not attempted, partly for want of books of

* "Catalogue of the Marine Mollusca of New Zealand, with Diagnoses of the Species." By Frederick Wollaston Hutton, F.G.S., C.M.Z.S., Assistant-Geologist (Wellington, 1873).

† "Manual of the New Zealand Mollusca. A Systematic and Descriptive Catalogue of the Marine and Land Shells, and of the Soft Mollusks and Polyzoa of New Zealand and the adjacent Seas." By F. W. Hutton, F.G.S., C.M.Z.S., Professor of Biology, Canterbury College, New Zealand University. Late Curator of the Otago Museum (Wellington, 1880).